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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/816,398	04/01/2004	John D. Langley	045221/275977	9608

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EXAMINER

MATZEK, MATTHEW D

ART UNIT	PAPER NUMBER
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1771

DATE MAILED: 07/12/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/816,398	Applicant(s) LANGLEY ET AL.	
	Examiner Matthew D. Matzek	Art Unit 1771	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 May 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3, 5-33 and 38-40 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 17 and 25-33 is/are allowed.
- 6) ☒ Claim(s) 1-3, 5-16, 18-24 and 38-40 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 01 April 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>4/1/04</u> . | 6) <input type="checkbox"/> Other: _____ |

Response to Amendment

1. The amendment dated 5/5/2006 has been fully considered and entered into the Record. The amended claims contain no new matter. Claims 4 and 34-37 are canceled. Claims 1-3, 5-33 and 38-40 are currently active. The previously applied 112 2nd paragraph rejections have been withdrawn due to amendment. The previously applied rejection of claims 1-4, 8-15 and 38-40 under 35 U.S.C. 102 (b) as anticipated by or, in the alternative, under 35 U.S.C. 103 (a) as obvious over Langley et al. (US 5,948,708) have been withdrawn due to the clarification as to the type of radiation the attenuation layer is directed to resist.

Claim Rejections - 35 USC § 103

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

2. Claims 1-3, 5-15, 16, 18-24 and 38-40 are rejected under 35 U.S.C. 103(a) as obvious over Langley et al. (US 5,948,708) in view of Chapman et al. (US 4,965,408) and Shah et al. (US 5,245,195).

a. Langley et al. teach a multi-layer composite consisting a chemical barrier layer 12, a flame resistant layer 13, and a reflective layer 14 (Figure 3). The chemical barrier layer is itself a composite material having multiple substrates (Abstract). The Examiner equates the reflective layer to the claimed radiation attenuation layer as the applied layer is designed to prevent radiant energy from reaching the internal flame and chemical barrier layers (col. 3, lines 20-22). The reflective layer may be metallized polyethylene terephthalate (col. 3, lines 18-20).

b. The chemical barrier layer comprises multiple layers and may include a polyethylene co-extruded film layer (col. 5, line 58- col. 6, line 8). Claim 11 is rejected as polyethylene is heat-sealable. The chemical resistant layer 12 as illustrated in Figure 3 comprises a multitude of layers, any of which may serve as an additional reinforcing layer and may be made of the chemical compositions listed in claim 1 (col. 3, line 66-col. 4, line 15). The additional reinforcing layer may be adhered to the composite fabric via thermal lamination (col. 4, lines 18-22).

Claims 38-40 are rejected as the applied composite is used to create a chemical protection suit which is self-protecting against fires that expose it wearer to toxic vapors (col. 3, lines 25-29). The invention of Langley et al. is silent as to the use of barium in a polymeric layer to provide radiation attenuation.

c. Chapman et al. teach a composite sheet material for electromagnetic radiation shielding comprising a layer of polymeric or co-polymeric film, a layer of metal foil, and a layer of adhesive to bond the aforementioned layers. An optional backing layer may be bonded to the sheet to provide further support for the article (Abstract). The support layer may be made of synthetic nonwoven polypropylene (col. 4, lines 18-24). It is desirable that the support layer also serves as a flame retardant or flame resistant material (col. 4, lines 23-25). The article of Chapman et al. is silent as to use of barium for radiation attenuation and the incorporation of antimicrobial and biocides in the protective article.

d. Shah et al. teach that in the field of radiation attenuation, a film of elastomeric elastomer containing from about 60 to 90 weight percent of barium sulfate or barium salts

is equivalent to metal foils (Abstract). The filled polymer film of Shah et al. is formed from thermoplastic elastomer, barium salt, and may include antimicrobials and biocides and flame-retardants (col. 2, lines 33-40).

e. Since Langley et al., Chapman et al. and Shah et al. are from the same field of endeavor (protective articles comprising flame/fire retardancy and radiation attenuation composites, respectively), the purposes disclosed by Chapman et al. and Shah et al. would have been recognized in the pertinent art of Langley et al.

f. It would have been obvious at the time the invention was made to a person having ordinary skill in the art to have replaced the reflective layer of Langley et al. article with the electromagnetic radiation shielding composite of Chapman et al. with the outermost layer comprising the polymer filled barium, antimicrobials and biocides of Shah et al. with the motivation of creation a radiation attenuation article that is also chemically and fire resistant.

g. Claim 19 is rejected as the chemically-resistant composite comprises at least two layer of different composition (col. 3, line 66 – col. 4, line 9). Claim 20 is rejected as the use of a coextruded film to serve as a chemical barrier layer and is heat sealable (col. 5, lines 63-65). Claim 3 recites the use of an adhesive tie layer between the radiation attenuation layer and the chemical barrier layer, thereby rejecting claim 23.

h. The art previously applied to reject claims 5 and 6 is now being used to reject amended claim 1 as Applicant has clarified that the radiation attenuation composite barrier fabric layer is designed to block “ionizing radiation” and the polymer matrix and

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barium of instant claims 5 and 6 is directed to provide such protection. This changing of the basis of rejection is directly a result of the amendment of claim 1.

Allowable Subject Matter

3. Claims 17 and 25-33 are allowed.
4. The following is a statement of reasons for the indication of allowable subject matter: the prior art does not teach the use of organophosphate hydrolase enzyme and/or oxidizing polymer along with radiation and chemical barrier article or a chemically resistant radiation attenuation composite barrier fabric comprising a polymer matrix and a radiation attenuant and an electromagnetic shielding ply. The article of claim 27 would be in condition of allowance because the prior art fails to teach a barrier fabric comprising a polyolefin matrix containing 40-80% barium sulfate with a spunbond polypropylene supporting substrate and a chemical barrier
5. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Response to Arguments

6. Applicant's arguments filed 5/5/2006 have been fully considered but they are not persuasive.
7. Applicant argues that the article of Langley fails to teach the instant ionizing attenuation layer. Examiner agrees with this assessment and has addressed amended claim supra.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Matthew D. Matzek whose telephone number is (571) 272-2423. The examiner can normally be reached on 8:30 am - 5:00 pm.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terrel Morris can be reached on (571) 272-1478. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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NORCATORRES
PRIMARY EXAMINER